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ABSTRACT

This paper describes the characteristics of Botswana's remote area dwellers (RADs) and the government's related rural development policies. RADS live a nomadic lifestyle, live outside the traditional village structure far from basic services, rely heavily on hunting and gathering, have low levels of literacy and little access to education, and frequently speak a language other than the national language. In 1989, an estimated 24,800 RADs lived in approximately 131 small scattered settlements. The government's Accelerated Remote Area Development Programme encourages RAD participation in various economic activities: agriculture, hunting and wildlife management, food processing, livestock production, beekeeping, salt production, and marketing of handicrafts and food products. All these activities require training. Only 33 schools and 24 health posts are located in RAD districts. A household survey in one village containing a primary school and an adult literacy program revealed that of a total population of 1,254 persons, 828 were enrolled in school or the National Literacy Programme (NLP) or had completed NLP. No secondary education was available, indicating the need for appropriate correspondence education or other distance education. In four other remote areas, 86 percent of respondents had no schooling or exposure to NLP. At present, the following educational programs are available via correspondence or radio broadcast: primary, secondary, and higher education programming; farmers' broadcasts; health education; adult literacy; women's development concerns; conservation of natural resources; and general economic and social issues. (SV)

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The Role of Adult Education in Assisting Sustainable Development in Remote Area Dwellers of Botswana

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Introduction

The paper provides information about the geopolitical and ecosystem position of Botswana. It also attempts to provide the discussion on the links between the sustainability of the socioeconomic environment of Remote Area Dwellers (RADs) and the actual and potential application of Distance Education to non-formal education. Case studies demonstrate the effectiveness of the presence and absence of both formal and non-formal education institutions and programme. Relevant recommendations are also made.

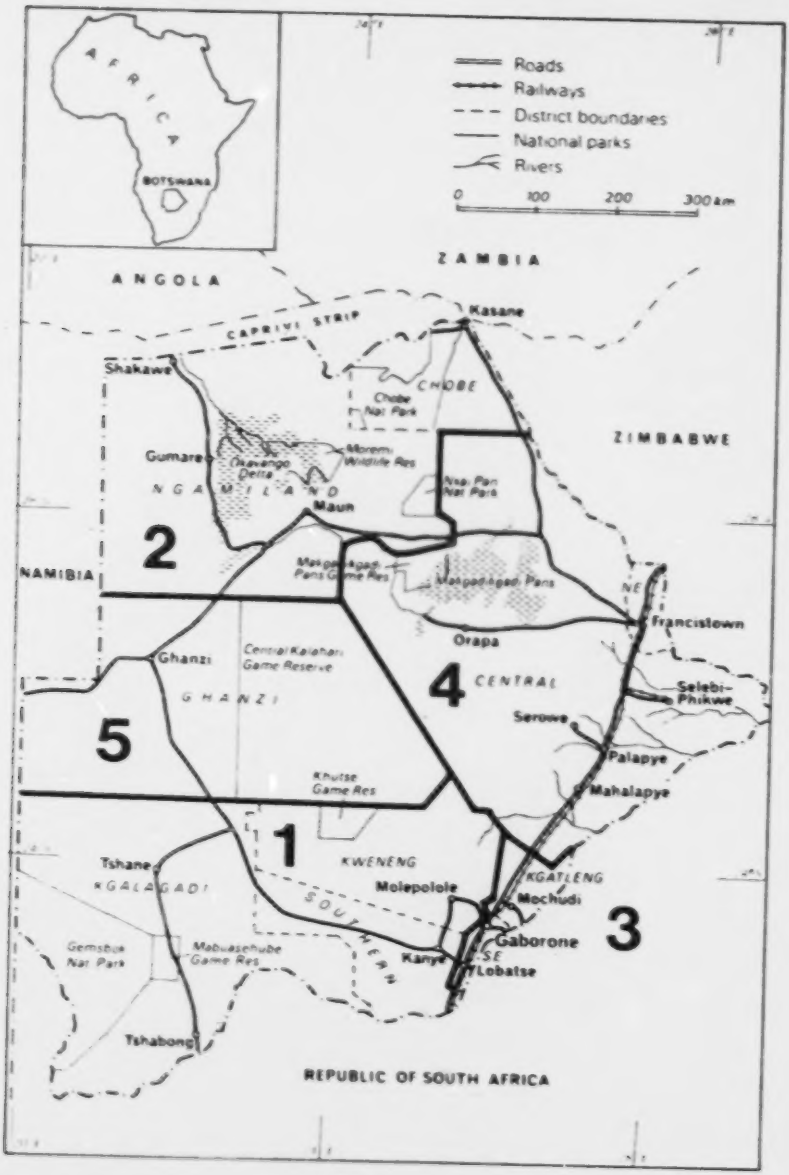
The Geopolitical and Ecosystem Position of Botswana

The map of Botswana shows the country's position in Southern Africa and the five main RADs districts. Botswana attained independence from the British in September, 1966. Geographically, the country is landlocked—located at the centre of Southern Africa. It shares borders with the newly independent state of Namibia, Zambia, Zimbabwe, and the Republic of South Africa.

Ecologically Botswana has gentle undulations and occasional rocky outcrops. The country is mainly arid and semi-arid characterized by extremely low irregular rainfall, occasional droughts (the recent one covered 1981-1986), high temperatures, absence of surface running water (rivers are mostly ephemeral), poor vegetation, and lack of tarmacked roads, especially to the remoter district centres. Currently government efforts are on providing a communication network to all parts of the country including RADs.

The rate of growth of the population is 3.4% per year (total population is estimated at 1.2 million), the highest in the African region. Settlement patterns show heavy concentration in the east where land and water resources are best. The population is predominantly rural (82.3%), with fast growing urban centres (with an economy fed by the diamond boom) and a thinly populated western country (covering Ngamiland, Ghantsi, Kgalagadi or Kweneng) that has an average density of 0.14 persons per square kilometer. This area constitutes 61% of the land mass of the country (582 000 km^2) but in the 1981 accounted for only 12.7% of the population as compared to a density of 17.2 persons per km^2 in the more populated eastern part of the country (NDR-6, 1985-91). RADs are predominately in the western part of the country and especially the Kalahari Desert.

Botswana



1 – 5 Remote Area Dwellers (RADs) Districts

The Socio-Economic Condition of Remote Area Dwellers

Definition and Criteria

Remote Area Dwellers (RADS) live a nomadic life-style. According to the Botswana Government recommendations and policies of rural development as well as policy in which all citizens have equal rights, Remote Area Dwellers have been defined by socio-economic and geographic criteria. The RADs are categorized as rural citizens who are the poorest of the poor; they live outside the traditional village structure in a geographic or socioeconomic sense; they tend to live in small communities (5-500 persons), reside far from basic services and facilities, rely heavily on hunting and gathering as source of livelihood, are generally non-livestock owners; they have no or inadequate access to the land and water; and they have no or inadequate access to extension advice and development information. Other characteristics include low levels of literacy and little access to educational opportunities; they often have another language besides the national language—Setswana—as their mother tongue; they are a silent sector politically and are the most disadvantaged groups in the country economically, with the lowest wage levels (Robert K. Hitchcock, 1989). In short, they have been marginalized ecologically, economically, socially and politically, even before the country regained its independence in 1966. For example, European settlers in the 1870's occupied the best parts of Ghantsi with surface water, thereby displacing the indigeneous people (Basarwa) who were forced into serfdom as the settlers established more cattle ranches.

Population Data for Remote Area Settlement by Location (District)

Table I shows population data for RAD by District

District	Approximate No. of Settlements	Estimated Total Population	Persons in Each Settlement Range
1. Kweneng Kgalagadi	38	1,928	13-167
2. North West Ngamiland	44	5,798	5-771
3. Kgatleng	5	679	24-250
4. Central	31	11,182	90-850
5. Ghantsi	13	5,209	202-791
Grand Total	131	24,796	5-850

Source: Estimated data obtained from various documentary reports i.e. Reports on monitoring Research and Development in RADs of Botswana: Robert K. Hitchcock, reports I + II, 1989.

The data in Table I need to be interpreted with great caution because: population data were based on 1981 census, and with a birth rate of 3.4% per year, the total population in RADs has increased greatly. The demographic data on RADs show a tendency to live in small settlements (range 500-850). The poorer sand soils are able to support RAD settlements of small population sizes. This is true especially in the Kweneng or Kgalagadi (Kalahari) Desert in which 35 out of 38 RAD settlements register population sizes of below 100 persons. In Ngamiland District (5-771), out of a total of 44 settlements, 26 or 59.1%, have fewer than 100 persons and only 5 RAD settlements have more than 300 people. The major issues are the absence of road communications to Remote Area Dwellers and their scatteredness.

Government Policy on RADS Socio-Economic Sustainable Development

Since independence, the Botswana Government has long been aware of the needs and difficulties of assisting those people living in remote areas. With its avowed rural development policies (1973) also enshrined in the Sixth National

Development Plan (NDP VI, 1985-91), the government founded the Remote Area Development Programme (RADP) in 1974. In essence the government policy on RADP is not to force these people to give up their traditional livestyle but to encourage them to intergrate into the national social, economic, and political system gradually and on an equal basis with other citizens. The question to be debated is how and with what results so far (especially functional education for modernising the RADs).

The overall goals of the Accelerated Remote Area Development programme include the establishment of self-reliance among remote area dwellers, the improvement of the political and administrative capacity of remote area communities, the overcoming of development constraints (such as lack of access to markets, capital and tools), and enhancement of planning, coordination and project implementation capacity at central government, district and local levels. Crucial areas for development consideration for the future well-being of remote area population centres are the economic and educational conditions of RADS. The following is focused on the various economic strategies pursued by remote area residents and human resource development strategies, including both formal and non-formal education and training.

Planned economic activities to be undertaken under accelerated Remote Area Development Programme (Ministry of Local Government and Land 1987-1993) are *Agriculture* (cultivation, conservation, grapple plant, wild fruit herbs and worms); *Wildlife* (game ranching, game culling, skin tanning); *Food processing* (Biltong making, bread making, grapple planting), *Horticulture* (vegetables); *Livestock production* (poultry, small stock, cattle, donkeys, mules), and *Marketing* (internal and external of Biltong, handcrafts, melons, brad, eggs, chicken, worms, grapple plant, etc).

Assessment of the four types of economic production for the RADs (agriculture, pastoral, hunting and gathering) shows many constraints as these affect arable agriculture after the prolonged drought of 1981-86 affected production. The little produce obtained is usually for domestic consumption and is rarely marketed. As very few RADs own livestock, insights into new livestock schemes are still sketchy since the plan is still at an introductory level. Government laws enforce conservation for wildlife, maintaining a level population for sustainability. Few special hunting licences are made available to the RADs communities and this low number results in under-utilization of the game resources.

Drought has adversely affected "gathering", which is done during the rainy season, as an economic activity. Normally the most important reason for gathering is consumption. Despite all such constraints there exists potential for improvement and employment creation. For example, the introduction of solar desalination plants in the Kgalagadi desert (R11C—1977) has proved successful in producing fresh water—a crucial concern in the desert, and commercial salt for both human and livestock consumption. This economic activity is done by the RIIC staff in collaboration with RADs village development committees. The villagers are trained in all the elements of personnel and financial management for a successful, self-sufficient salt production facility. R11C (NG0) extension has a long history of training village dwellers in skill and management techniques through the village artisans' training programme.

In summary, employment and income generating activities in Remote Areas include hunting, collection of wild resources, arable agriculture, pastoralism, fishing, tourism, handcrafts, bee-keeping, poultry and salt production using solar desalination technology. Such production-oriented activities require educational knowledge and skills training strategies.

Human Resources Development Strategies in RADs
Formal and Non-Formal Education and Training

One objective of Botswana rural development policy as outlined in NDP VI is to provide an environment conducive to all Botswana to have a productive life by creating new employment opportunities where feasible, to improve social services leading to healthier and better educated families and to increase and sustain production from the land and other natural resources. So far about 80% of the villages now have access to potable water. The primary health care strategy has covered 85% of the rural population that is within 15 km of a health facility, and 85% of school age children are in primary schools. Impressive as these figures are, RADs are still disadvantaged. A shortage of skilled human resources following on the colonial neglect has constrained the implementation of these development plans. However, the government has been aware that the prerequisite of sustained economic growth is the availability of skilled and productive human resources (Ministry of Finance and Economic Planning, 1985).

This also has direct implications on the significance of rural and remote area development in Botswana through the expansion of both formal and non-formal education training. Educational opportunities for RADs have expanded in post-independence. The goals of human resource development

are, among others, to expand the capacity of RADs and RAD institutions to plan, direct, and assess development activities, and to encourage and increase the level of participation of RADs in a variety of development activities. Thus enchancement of leadership and organisational skills is crucial to accelerated socio-economic development in RADs. The government is also aware that to improve further the public service performance, there is a need to change the attitudes of staff towards work. Thus the government has increased the Central Training Vote to enable training of more officers than hitherto. The Natural Industrial Training and Technical Education Council (NITTEC) will seek to identify critical areas for training so that the country's resources are put to the best use (President Masire, November 1990). Special RADOs (Remote Area Development Officers) have been appointed to administer and promote RADs socio-economic and political development. Social services are of significant concern in RADs development strategies. Table II shows data on social services in RADs settlements in Botswana.

Table II: Social Services in RADs Settlements in Botswana

District	Schools	Hostels	Health Posts
1. Central	13	0	6
2. Ghantsi	9	3	8
3. Kgalagadi	0	5	0
4. Kgatleng	4	1	5
5. Kweneng	0	3	1
6. North West	6	1	4
7. Southern	1	0	0
Total	33	12	24

Source: Data adapted from Robert K. Hitchcock—Monitoring Research and Development in RADs of Botswana Report I, 1989 page 76.

Data in Table II illustrate humble attempts to provide mainly primary schools, hostels and health posts. Some districts have fared better than others. However, problems of remoteness, migration, lack of roads and small size of settlements (5-100 persons), continue to hamper government efforts to provide public social services. For example using the government criteria of providing a primary school to every settlement of 500 people and above leaves many RADs settlements unattended. The solution is to combine several settlements and to provide a school with hostels for boarding for children from greater distances. As well, the government is trying hard to re-settle some RADs in selected settlements, promoting the goals of security, changes in land use, and tenure in RADs is another development strategy. In brief, considering the total population in RADs and the small number of schools so far provided there is greater need for more action in the area of human resource development. Non-formal education also must be instituted, as must training programmes in vocational areas.

Research evidence (Mutanyatta, Mutava, 1988) shows that the presence or absence of formal and non-formal education affects literacy in RADs. Tables III and IV illustrate this point.

Table III: Literate Population by Gender and Category of Acquisition of Literacy—Motokwe (Remote Area Dwellers) Village

Category	*Males*	*Females*	*Total*
1. Youths in primary schools	175	192	367
2. Youths finished Standard VI	—	—	133
3. Youths in secondary school outside the settlement	—	—	41
4. Adults above 15 years who are in the National Literacy Programme Non-formal Education (NLP)	64	129	193
5. Youths below 15 years in NLP	25	26	51
6. Adults finished NLP—new literates	11	32	43
Total	275	379	828

Source: Mutanyatta J, Mutava P. (1988): *Literacy Flourishes in the Heart of Kgalagadi (Kalahari) Desert: The Motokwe Village Case Study*, IAE, Mimeo.

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Table IV: Literacy Levels in Four Remote Area Dwellers Settlements (RADs)

Variable	*Kedia*	*Khwee*	*Mmakgama*	*Mmiya*
No. of respondents who have ever been to primary school	8 (18.6)	0 (0)	0 (0)	0 (0)
No. respondents who have been to secondary school	2 (7.4)	0 (0)	0 (0)	0 (0)
No. of respondents with other type of education	5 (11.6)	1 (6.0)	0 (0)	2 (10.5)
No. of respondents who are illiterate	28 (65.1)	17 (94.0)	14 (100)	17 (89.5)
Total number of respondents	43 (100)	18 (100)	14 (100)	19 (100)

Source: Data adapted from: Christopher Ndozi and Elisha Nielson Toteng (1989): A socio-economic survey of selected Central District Remote Area. Settlements applied research until Ministry of Local Government and Lands.

A close analysis of data in Tables III and IV clearly shows the effectiveness of the presence or absence of formal and nonformal education in RADs. The researchers carried a house to house survey of Motokwe village (300 km or so from Gaborone to the extreme Kalahari desert westward) to establish baseline data for long-term eradication of illiteracy in the village (Table III). At the time (1988), the village contained 168 families with a total population of 1,254 people (490 or 39.1% males and 764 or 60.9% females). Data show the distribution of literacy levels and form of acquisition. The village contains one primary school and adult literacy programming by the Department of Non-formal Education is carried on. The illiteracy rate by age and gender revealed that persons between 6-15 years, 49 were males and 45 females (N = 94); those above 15 years, 65 were males and 93 females (N = 158). This resulted in a total of 252 illiterates in the village. The remoteness of the village hindered any individual in her effort to achieve above standard seven

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via continuing education. This demonstrates a need for further secondary education by correspondence education at a distance for RADs. Secondary education by correspondence or other distance teaching methods is a suitable modality for RADs, since secondary schools are not available in these remote settlements and will not be available in the near future. Equally revealing is the variation in literacy levels in four remote areas (Table IV). These data show in no uncertain terms that the population in these RADs is characterized by high levels of illiteracy (from a total of 94 respondents 81 or 86% had never been to school and do not have an exposure to non-formal or adult literacy programming that started in 1981 targeted to 250,000 illiterates in Botswana). In a nutshell, the government must provide more formal primary and secondary school education, and adult literacy classes in remote areas. The question is how. This leads us to a debate on modalities of education provision in RADs and, especially, distance education.

Application of Distance Education to Non-Formal Education in Botswana

Let it be clear from the onset that there is no specific distance education for RADs but for the general public as a whole. The assumption is that the RADs are also the target group in the Botswana society. Therefore in this section, data is provided to show the manner and extent to which distance education is practiced to enhance formal and non-formal education for human resource development in Botswana. Application of distance education has been developed in Botswana to serve a variety of target groups in a variety of ways. (Mutanyatta, 1989, 1990; Mutava, 1990 and Dube, 1988.

Table V: Distance Education Programmes in Botswana: Types and Modalities of Offering

	Type of Programme	*By Who Institution*	*Target Group*	*Methodology*
1.	Farmer's Broadcasts	Information unit Ministry of Agriculture	Farmers	Radio Botswana
2.	Health Education	Ministry of Health	To all Botswana	Radio Botswana
3.	Correspondence Education at J.C. and GCE	Ministry of Education Dept. Non-formal Edu.	Continuing education for J.C. and GCE examinations	Radio, Print and face to face tutoring
4.	Adult Literacy: National Literacy Programme	DNFE Literacy Unit	All illiterate and semi-literate and new literates	Radio Botswana Print
5.	Women in Development	Ministry of Home Affairs, Women Affairs unit	All women	Radio Botswana Print
6.	School Broadcasting	Departments Primary and Secondary Education	Students in formal Educ.	Radio Botswana
7.	Conservation of Nation Resources	Agriculture Wildlife Dept. and Tourism	Botswana especially in game reserves	Radio Botswana and Print
8.	Mass Campaign	Agriculture Education Health, Politics etc.	Botswana general and specific groups	Radio Botswana
9.	Higher Education	University of Botswana Certificate in Adult Education and Theology	grassroot adult educ. and church personnel	Mainly Print, tutoring and Radio Botswana in some cases
10.	General Coverage e.g. Employment Creation, Youth and Social Welfare	Several relevant Ministries and NGOs	General and public and specific groups	Radio Botswana

Table V reveals that there is evidence of a change in attitude towards the use of educational methodologies developed for distance education. The role of Radio Botswana in educating and mobilizing people for extension related programmes, public information, as well as political issues, cannot be overemphasized.

Programmes include agricultural extension, correspondence education, health education, and adult literacy. *Agricultural extension*, provided by farmer broadcasts, constitutes about 40% of the educational programmes over Radio Botswana, signifying the importance of agriculture in the country. The general aim is to encourage farmers to adopt new scientific and technological practices in both arable and livestock farming. Agrinews leaflets are also printed for use by farmers and other leaders in rural reading rooms, libraries (Mchombu, and Mutanyatta, 1987). Contacts are made by extension agricultural demonstrators, though extension services are still low in this country. Also, for the RADs, Remote Area Development Officers have been appointed. In all, no concrete data exist on assessed agriculture performances in RADs. The only evaluation known is that of the mass-campaign of the Tribal Grazing Land Policy (Etherington, 1977). However, the campaign tended to attract the schooled at the expense of nonschooled. The audience reached amounted to 52,100 people. Less than 4 in 10 of the audience claimed not to have attended school, while 60% of the audience claimed to be literate. Considering that most RADs are illiterate and that they do not possess cattle, such a radio campaign may be of little effectiveness to them. But findings that show far less uneducated people listen to the radio than the educated ones are probably generalizable to all educational radio programmes, and must be accepted as an inevitable disadvantage of using radio as a medium of adult education.

Correspondence education, administered by the Department of Non-formal Education (DNFE), focuses mainly on school leavers after standard seven, drop-outs in secondary schools and failures at junior secondary school level and General Certificate of Education (J.C. and GCE, respectively). Subjects offered are Biology, Geography, English, History, Mathematics, Setswana and bookkeeping at JC level. The programme uses print, tutoring and radio. It started in 1973 and a total 14,052 enrolled by 1989, of which, 1 451 have attempted JC examinations (1979-1988); out of which 433 passed the JC exams and 1,021 failed—revealing the impact of the programme (Mutanyatta, 1990). The DNFE also offers distance education by radio on knowledge and skills in various income generating activities, e.g., home economics, and study skills.

Health education topics are aired on radio Botswana. These include immunization, breast-feeding, family planning, etc. A feasibility study (Mutava, 1989) and a pilot project evaluation (Mutava, 1990) of human resource development was conducted in Botswana on various aspects of the training of health managers for the Ministry of Health through distance education (print, and individual tutoring). Eventually, distance education as a technology for training health personnel in management will reach RADs.

Adult literacy by the radio mainly concentrates on motivation awareness and general basic education. Through print, worksheets are sent by post to adult literacy learners for feedback on numeracy, literacy, and functional skills related to income generating projects. Post-literacy primers and leaflets have been produced by the DNFE for new literates to continue reading on their own. A consultancy is being carried on to establish the magnitude and extend of the needs of post-literacy in Botswana (Mutanyatta, et al, 1990). Apart from these distance education programmes, nonformal education is also provided to rural regular village development committees, and farmers committee. No attempt has been made to establish a rural radio programme format in Botswana but the need is there. There of course exist constraints in radio listenership in Botswana. These include poor reception especially in RADs, lack of radio, illiteracy, and convenience of air-time.

Summary and Conclusion

The paper has attempted to show the characteristics of Remote Area Dwellers and their socioeconomic development strategies. The government's positive attitudes to develop RADs is also discussed. Bottlenecks and constraints to bring about RADs development are pointed out. Attempts to provide reliable public social services are debated and data provided.

Noted is that although some efforts have been made to provide RADS with some social services like water, schools, health posts and communication infrastructures much is still to be done in the area of land allocation, creation of big settlements, introduction of new technology in arable and livestock activities, and provision of formal and non-formal education. The use of distance education strategies is urgently needed especially to cater for primary school leavers and possibly for school age children who have no formal schooling in small RADs. A programme could be developed to teach the 3Rs for such children and upgrade their 3Rs to levels of primary school and then to junior secondary school levels. Language differences between RADs has led to the suggestion that formal and nonformal education and training be instituted to train RAD indigenous people to enhance their own local development.

Remote Area Dweller Settlements pose serious development bottlenecks and constraints but we cannot give up on helping them as Botswana continues to believe in the prosperity of mankind and of its citizens in RADs. Canadian Remote Area Dwellers may be facing similar environmental, ecological and communication problems as those in Botswana that inhibit socioeconomic and political development.

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